

1. Study the extract below and answer the questions that follow.

**Tax rise reduces smoking and boosts revenue**

- ❶ The Center for Disease Control estimates that health costs caused by smoking across America total \$7.18 per pack sold in the United States. The University of Wyoming's Survey and Analysis Center reports that in 1998, \$106 million was spent in Wyoming on the **negative externalities** directly related to smoking.
- ❷ A tax increase approved in 2003 has reduced the quantity of cigarettes demanded and increased state revenue, and experts believe another increase would do the same. The indirect tax increase raised revenue from around \$500 000 per month to \$1.5 million per month. Tax revenue was higher despite the fact that the number of packs sold fell 17.4 % over the year following the increase.
- ❸ Marc Homer, assistant research scientist with the center's Tobacco Prevention and Control Evaluation team, suggests that another tax increase would further raise revenue while further slowing cigarette consumption. "Raising taxes is a no-cost measure that reduces the health burden," Homer said. "In fact, it is a bonus for the state because it has the added benefit of increasing government tax revenue."
- ❹ Homer pointed out that taxes are still higher in surrounding states. "Currently the average tax per pack of cigarettes, for Wyoming and the six states on its borders, is 80 cents," he said. In Montana, a recent increase put the indirect tax much higher at \$1.70 per pack. "States with cigarette taxes higher than Wyoming's, such as California (87 cents) and New York (\$1.50) have successfully reduced consumption while increasing revenue," the report says.
- ❺ The price of cigarettes in Wyoming has risen steadily since 1997, with a dramatic 2003 increase when the tax increased from 12 cents to 60 cents per pack. That elevated Wyoming's cigarette tax rate from fifth-lowest in the nation to 28th in the nation.
- ❻ The report quotes studies showing that a 10 % increase in cigarette prices reduces overall smoking among adults by about 4 %. "For every 10 % rise in price, there will be a 7 % decrease among young people smoking," the report says.
- ❼ However, higher taxes aren't the only means the state should use to reduce **demand** for tobacco. As Homer said, "Although increased taxes are a highly effective means of decreasing tobacco use and raising state revenue, this conclusion should serve as a reminder that increasing taxes is not the only solution".

[Source: adapted from *The Casper Star Tribune*, January 2005]

*(This question continues on the following page)*

*(Question 1 continued)*

- (a) Define the following terms indicated in bold in the text:
- (i) negative externalities (*paragraph ❶*) [2 marks]
  - (ii) demand (*paragraph ❷*). [2 marks]
- (b) Using an appropriate diagram, explain how cigarette smoking is an example of market failure. [4 marks]
- (c) Using evidence from the text, explain which group of consumers has the lower price elasticity of demand for cigarettes – adults or young people. [4 marks]
- (d) Using information from the text and your knowledge of economics, evaluate **two** possible methods of reducing the external costs of smoking. [8 marks]